

Application No. 09/816,867

Amendment and Response After Final dated September 7, 2004

Reply to Office Action of June 17, 2004

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1. (Previously Presented) An arrangement for use in connection with a parking brake for a vehicle, said arrangement comprising:

a lever coupled to at least one force transmitting wire in a brake system, said lever being arranged so that application of the lever initiates two steps to achieve the intended brake power; in a first step, the lever is arranged to make a translational movement for taking up wire slack in the brake system and in a second step, the lever is arranged to rotate, whereby force transmission to the wire takes place at a higher ratio than during said first step.

2. (Original) The arrangement according to claim 1, further comprising: a force sensing mechanism coupled to the wire, said force sensing mechanism having a locking pawl that is arranged to be released to allow rotation first when the slack in the wire is taken up, and when the force in the wire exceeds a chosen value.

3. (Previously Presented) The arrangement according the claim 2, further comprising:

a translation lock arranged to retain the lever in the lever's tightened translational position;

a ratchet arranged to retain the lever in the lever's tightened rotational position;

a release arrangement configured to release the translation lock and the ratchet, the release arrangement including a release button attached to the lever, the release button operating via a link system in the lever on the locks to free the translation lock and the ratchet; and

the release apparatus being designed to first release the ratchet and thereafter, when the lever is in or near the lever's rest position, then release the translation lock.

4. (Previously Presented) The arrangement according to claim 1, further comprising:

a housing in which a force sensing mechanism is positioned, the housing being placed in a housing holder fixed to the vehicle, the lever being rotatable on a rotation axle affixed in said housing holder, the housing and lever being positioned in direct contact with each other and arranged to cooperate so that only together can the housing and lever be moved or rotated in the housing holder, a locking apparatus included in the force sensing mechanism being equipped with arms that in the first brake step are arranged to prevent the housing from rotating in the housing holder, the force sensing mechanism including a spring so arranged that the spring is compressed by the force in the wire, the spring being dimensioned so that the spring is completely compressed first when the slack in the wire is taken up and the force in the wire exceeds said chosen value and the arms being arranged to be released from locking engagement with the housing holder when the spring is completely compressed.

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5. (Previously Presented) The arrangement according to claim 4, wherein the housing is capable of translational motion relative to the housing holder and the translational motion is guided by at least one guide slot in the housing holder.

6. (Original) The arrangement according to claim 5, wherein said parking brake is placed in the middle console of the vehicle beside a gear lever in order to achieve an ergonomically good solution when using the hand brake, and the direction of said guide slots is chosen to achieve the ergonomically best possible pulling direction for the driver.

7. (Currently amended) An arrangement for a two-stage parking brake, said arrangement comprising:

a lever ~~mechanism~~ connected to a brake wire, said lever ~~mechanism~~ configured to perform a first stage of operation in which slack is removed from said brake wire by the translational movement of the lever ~~mechanism~~ upon activation of the parking brake, and a second stage in which a braking force is exerted on said brake wire by the rotation movement of the lever ~~mechanism~~ upon activation of the parking brake.

8. (Canceled)

9. (Canceled)

10. (Canceled)

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11. (Previously Presented) The arrangement according to claim 7, wherein said arrangement includes a pin-in-slot configuration utilized for performing said translational movement in said first stage for removing slack from said brake wire.

12. (Previously Presented) The arrangement according to claim 7, wherein said arrangement is configured to apply no force multiplication during the performance of the translational movement in said first stage for removing slack from said brake wire.

13. (Previously Presented) The arrangement according to claim 7, wherein said arrangement is configured to apply force multiplication during the performance of the translational movement in said first stage for removing slack from said brake wire.

14. (Previously Presented) The arrangement according to claim 7, further comprising:

a force sensing mechanism configured to sense the amount of force being imposed on said brake wire and transition operation of said arrangement between translational and rotational movement dependent thereupon.

15. (Previously Presented) The arrangement according to claim 14, further comprising:

a spring incorporated in said force sensing mechanism and a degree of compression of said spring controlling said transition between translational and rotational movement.

16. (Previously Presented) A parking brake for a vehicle comprising: a housing holder configured with at least one guide slot, and a lever having a rotation axle, wherein the lever is slidably and rotationally coupled to the guide slot, and wherein the lever is coupled to at least one force transmitting wire in a brake system, said lever being arranged so that application of the lever initiates two steps to achieve a final intended brake power; in a first step, the lever and rotation axle are arranged to make a translational movement relative to the housing holder for taking up wire slack in the brake system, and in a second step, the lever is arranged to rotate about the rotation axle, whereby force transmission to the wire takes place at a higher ratio than during said first step so as to achieve the final intended brake power.

17. (Previously Presented) The parking brake of claim 16, where in the housing holder has two opposing side walls wherein each side wall has at least one guide slot and wherein the rotation axle of the lever is configured to translationally slide within the guide slot in the first step and wherein the lever is configured to rotate about the rotation axle relative to the guide slot in the second step.